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Public perception of depression in the city of São Paulo

ABSTRACT

OBJECTIVE: To assess how the population identifies symptoms of depression as well as its causes.

METHODS: A household survey with a probabilistic sample of 500 individuals, residing in the city of São Paulo and aged between 18 and 65 years, was conducted in 2002. A structured questionnaire including sociodemographic data and a vignette presentation describing a person with depression, according to the Diagnostic and Statistical Manual of Mental Disorders-IV and the International Classification of Diseases-10 was used during the in-person interviews carried out by trained, qualified interviewers. Two questions about the vignette's symptom identification were subsequently asked. The results were analyzed by means of logistic regression and variance analysis.

RESULTS: Symptoms presented were identified as "depression" by less than half of the sample. About 20% of respondents believed it was a mental illness. Low level of education was the only variable associated with identification as mental illness (OR=2.001, 95% CI: 1.275; 3.141, p=0.003). The most relevant causes were "unemployment" and "isolation". Biological, spiritual and moral causes were considered to be less relevant. Factors that most influenced the responses about causes were level of education, gender, personal experience with mental problems and identification as mental illness.

CONCLUSIONS: The population of the city of São Paulo in general, especially those with a higher level of education, views depression in terms of a psychosocial model that somewhat differs from the biomedical model.

KEY WORDS: Mental health. Depression. Perception. Health knowledge, attitudes, practice. Morbidity surveys. Questionnaires, utilization.

INTRODUCTION

Depression is considered to be one of the ten most important causes of incapacitation in the world, leading to physical, mental and social functioning limitations.[13] However, only a small portion of the afflicted population receives adequate treatment. Moreover, stigma still weighs significantly on people with depression. The manner by which the population identifies depression symptoms and their beliefs about its etiology can influence the process of seeking help and treatment adherence, as well as the community's attitude and behavior in relation to those who suffer from this disorder.[8]

Recent studies assessed how the general population identifies symptomatic descriptions of depression and the causes attributed to it. These studies indicate that the public recognizes depression as an emotional or mental health problem. The main causes associated with it are of a psychosocial nature, especially stressful events in the person's life, whereas causes of a biological or spiritual nature are rarely linked to it.[1,2,6,10,15]

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Even though there are studies about this theme in several countries, including some small-scale works in developing countries, there are some literature gaps concerning knowledge about depression. In Latin America and the Caribbean in general, and in Brazil in particular, there is little information about this theme. A review carried out in the period between 1980 and 2000[16] could not find comprehensive studies, not even with representative population samples in Latin America. Moreover, there are few international studies that assessed the factors that are capable of influencing the identification and attribution of depression causes.

The present study aimed at assessing how the population identifies depression symptoms and its causes.

METHODS

In May and June of 2002, a household survey was conducted to assess the perception of depression by the population. The sample was comprised of residents from the city of São Paulo, aged between 18 and 65 years. The estimated sample size was 500 individuals, achieved by means of the statistical program "Stacts Direct software". Thus, a minimum number of 457 individuals were reached, using for this calculation an estimated response frequency of 5%, with a 2% standard deviation and 95% confidence interval.

A random multiple-stage sample with a substitution strategy was used. In this procedure, 50 clusters (predefined block groupings) were initially selected from São Paulo's city map. The cluster distribution was proportional to the population in the 96 city districts. Next, two blocks were selected in each cluster and five interviews were conducted on each block. After selecting the blocks, the first home was approached, defined by a random choice of an intersection between two streets or avenues. Other homes were selected by means of a systematic procedure. For each home, one resident aged between 18 and 65 years was chosen to participate in the interview, based on the birthday that was nearest the interview date.

A structured questionnaire was used as an instrument and applied in person by trained professional interviewers. The questionnaire preparation was based on questionnaires adopted in similar studies[1,5] and on a pilot study conducted with the local population by means of semi-open questions.

The assessment of the perception about depression began with the reading on a vignette that described a 30-year-old person with symptoms of this disorder according to the diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) and the International Classification of Diseases-10 (ICD-10). This vignette was designed in accordance with Jorm et al[5]'s model (1997). To guarantee that it reflected a person with depression, the vignette was previously assessed by three experienced psychiatrists from Universidade Federal de São Paulo's Department of Psychiatry. The gender of the person described in the vignette (José or Maria) was randomly distributed among respondents. The vignette was thus designed:

"José (or Maria) is 30 years old and, in the last months, he/she has been feeling sadder than usual, almost everyday. He/she has lost interest in activities that he/she used to like, feels irritable and has no energy to do things most of the time. He/she has also lost his/her appetite and has difficulty sleeping. His/her family noted that he/she has been feeling listless, cries easily and does not do his/her tasks as he/she used to."

After the vignette presentation, the respondent answered the following open question: "What do you think José/Maria has?". Multiple responses were accepted. After this, the following closed question about identification as mental illness was presented: "Do you believe he/she has some mental illness?".

The attribution of causes was assessed by presenting 18 possible causes: isolation, unemployment, family or love problems, excess of work, bad diet, drug use, recent stressful event, childhood problems, severe blow on the head, weak character or lack of willpower, lack of self-esteem, excessive nervousness, black magic or evil spirits, lack of faith in God, fate, virus or infection, genetic problem, brain dysfunction.

For each cause presented, the respondent answered based on a scale of five points that ranged from "I completely agree" to "I completely disagree". Then, the respondent had to choose which cause he/she considered the most important for the situation described in the vignette, among the 18 possibilities presented.

In order to verify possible determinants for the identification as mental illness, logistic regression analysis was performed. The following variables were included in it: gender (male, female), age group (18-29 years, 30-49 years, 50-65 years), religion (no religion, Catholic, Evangelical), level of education (0-7 years of completed studies, 8 or more years of completed studies), social class (A, B, C, D and E, according to the classification system from the *Associação Brasileira de Institutos de Pesquisa de Mercado* (ABIPEME – Brazilian Association of Market Research Institutes), and personal experience with mental health problems in general. Personal experience was assessed by means of the following question: "Have you ever had a problem with your nerves, emotional or mental disturbances, depression, or problems due to alcoholic drinks or drugs?".

The "Enter" method was used, and each non-significant variable ($p>0.05$) was removed manually, until the construction of the final model.

To verify possible variables that influenced the responses about attribution of causes, principal component analysis with Varimax rotation was performed to reduce the 18 possible causes to a lower number of factors. Afterwards, univariate variance analysis was made, where the average scores of each factor were dealt with as dependent variables. The independent variables were the following: gender, age, religion, level of education, social class, identification of the problem as mental illness, and personal experience with mental health problems. When necessary, the Bonferroni test was applied. Statistical analysis was executed by means of the Statistical Package for the Social Sciences (SPSS).

The study was approved by the Universidade Federal de São Paulo's Ethics Committee and all the participants signed an informed consent form.

RESULTS

Table 1 shows the main sociodemographic characteristics of the study sample and of the general population, revealing that the sample is comparable to the city of São Paulo's population (10,434,252 inhabitants, according to the demographic census performed by the *Instituto Brasileiro de Geografia e Estatística* (IBGE – Brazilian Institute of Geography and Statistics) in 2000.

The most frequent response given by respondents to the open question about the problem presented in the vignette was "depression" (44.4%). Figure 1 shows the main response categories. Categories mentioned in less than 5% of responses were not included.

The majority of responses could be grouped as mental health problems (48.0%), whereas 37.6% of responses could be grouped as personal or life problems, and 5.4% as physical problems.

In relation to the question about identification as mental illness, 19.2% of the sample believed that the situation described refers to a mental illness, while 78% believe it does not.

Logistic regression results indicated that a low level of education was the only variable assessed that showed to be associated with identification as mental illness. (OR= 2.001; 95% CI: 1.275-3.141, p=0.003).

Table 2 shows the percentage of respondents for each of the causes presented and for the cause considered to be the most important.

The majority of factors presented were considered as possible causes of depression. Factors related to the social and interpersonal environment were those most frequently referred to as possible causes. This tendency becomes clearer when the choice of the most important cause is made: the most frequent response was "unemployment", followed by "isolation". Biological nature causes were considered to be less relevant. "Brain dysfunction" and "genetic problem" were rarely chosen as the most important causes. Responses of a religious character or that attributed the responsibility to the person himself, defined by "weak character" or "lack of self-esteem", were also little selected as the most important causes.

Table 1. Socioeconomic characteristics of the sample studied and São Paulo's total population.

Variable	Sample (N=500) 2002 %	Total population* 2000 %
Gender		
Male	46.2	47.1
Female	53.8	52.9
Age group (years)		
18-19	7.0	5.7 **
20-29	25.0	27.1 **
30-39	23.6	23.4 **
40-49	19.6	18.6 **
50-59	15.6	11.8 **
60-65	9.2	13.4 ***
Schooling (complete years)		
0-3	11.8	15.7
4-7	27.6	32.4
8-10	23.0	19.4
11 or more	37.6	32.1

* Data originating from the first results of the 2000 Census by the IBGE (Brazilian Institute of Geography and Statistics) for the population of the city of São Paulo above 10 years of age.
** Data for the population at 18 years of age or older.
*** Data referring to individuals at 60 years of age or older. There are no data available for those between 60 and 65 years of age.

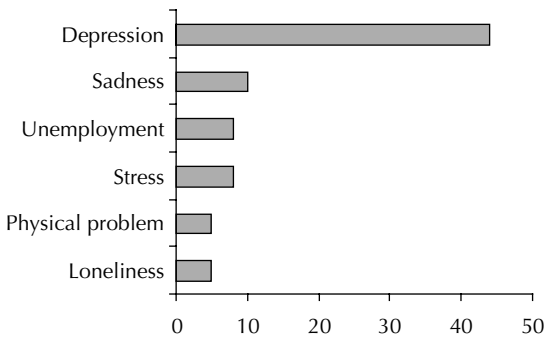

Figure. Distribution of responses for identification of the vignette about depression with frequencies equal to or above 5%. City of São Paulo, Southeastern Brazil, 2002.

Table 2. Percentage of respondents according to each of the causal factors of depression. City of São Paulo, Southeastern Brazil 2002. N=500

Causal factor of depression	Agree* %	Neither agree nor disagree %	Disagree** %	Do not know/ did not answer %	Main cause %
Unemployment	96.4	-	3.6	-	23.1
Isolation	91.4	1.2	7.0	0.4	22.3
Drug use	92.0	1.0	6.4	0.6	16.9
Lack of faith in God	80.4	4.4	14.4	0.8	8.2
Stressful event	93.2	1.6	5.0	0.2	6.2
Family problems	93.2	0.8	5.8	0.2	5.8
Lack of self-esteem	80.4	4.2	14.8	0.6	4.0
Childhood problems	89.2	2.4	8.2	0.2	2.0
Excessive nervousness	80.6	6.0	13.0	0.4	2.0
Weak character	71.8	4.8	22.8	0.6	1.8
Severe blow on the head	75.0	7.0	17.0	1.0	1.6
Brain dysfunction	73.0	5.6	19.8	1.6	1.2
Virus or infection	54.0	7.0	37.4	1.6	1.2
Genetic problem	63.8	6.8	27.6	1.8	1.0
Excess of work	65.0	6.8	28.2	-	1.0
Bad diet	75.2	6.6	28.2	0.2	0.8
Evil spirit/black magic	33.6	9.2	55.8	1.4	0.6
Fate	26.8	10.0	61.0	2.2	0.2

* Grouped responses (completely agree + partly agree)
** Grouped responses (completely disagree + partly disagree)

Table 3. Results from the univariate variance analysis for each of the three factors.* City of São Paulo, Southeastern Brazil, 2002.

Variable	Psychosocial factor		Biological factor		Moral/religious factor	
	F	p	F	p	F	P
Level of education (low)			11.370	0.001	10.354	0.001
Gender (female)	5.697	0.017	4.975	0.026		
Personal experience (yes)	4.634	0.032				
Identification as mental illness (yes)			5.596	0.018		

* Only the variables that reached significance ($p<0.05$) were included.

Even though five factors were initially identified as *eigenvalue*>1, the solution with three factors was chosen, as it presented a more significant structure. These three factors were: psychosocial, religious/moral and biological, which explained 42.4% of the variance (Table 3). Thus, the factor composition was the following:

1. Psychosocial (*eigenvalue* 4.28, explained variance 23.8%): isolation (factorial load 0.63), unemployment (0.62), drug use (0.62), family problems (0.61), stressful events (0.58), childhood problems (0.51), excess of work (0.48), bad diet (0.44).

2. Biological (*eigenvalue* 1.96, explained variance 10.88%): brain dysfunction (factorial load 0.80), genetic problem (0.74), virus or infection (0.64), severe blow on the head (0.61).

3. Religious/moral (*eigenvalue* 1.38, explained variance 7.71%): weak character (factorial load 0.71), lack of self-esteem (0.70), lack of faith in God (0.60), fate (0.47), excessive nervousness (0.47), black magic/evil spirit (0.43).

People with a lower level of education showed a higher tendency to attribute causes of a religious/moral and biological nature to depression. Women revealed higher tendency to recognize causes of a psychosocial and biological nature. Those who identified depression as a mental illness have a higher tendency to point to causes

of a biological nature. Personal experience, mentioned by 26% of interviewers, influenced the choice of psychosocial causes.

DISCUSSION

First of all, some limitations on the present study must be mentioned, as it was based on the presentation of a hypothetical situation by means of a vignette. This can produce an artificial situation that does not necessarily represent the real attitude and behavior of people when facing real depression situations. The use of questionnaires about opinions and knowledge, especially when applied in person by interviewers, is subject to inducing socially desirable responses.

The present study, carried out by a university (a fact informed to all participants before interview), could have further led people to express opinions that are closer to scientific knowledge. As other population studies in general, people who accept being interviewed could have distinct characteristics compared to those who refused to participate. In the present study, where the substitution strategy for absent people or for those who refused to participate was employed, this bias could have been stronger. However, in relation to main sociodemographic characteristics, there were no relevant differences between the sample and the general population.

Results must be interpreted cautiously, as, in statistical analysis, there was no correction for the successive sampling method random selections.

The results from the present study, which was carried out in Brazil's largest urban center, cannot be generalized for Brazilian regions with distinct social, cultural and economic characteristics. New studies are necessary in other regions, such as the north and northeast, as well as rural areas, to verify possible differences in the public perception of depression.

When presented to a symptomatic description of depression, less than half of the respondents in the city of São Paulo recognized the existence of depression, and an even smaller portion believed it was a mental illness. These results indicate that the population identifies it especially as a personal life situation of a temporary nature.

By comparing the present study's open question results about identification to Jorm et al's findings[7] (2005) in Australia and Japan, a similar tendency to define the vignette symptoms as a mental health problem is observed. The Australian population, however, more frequently adopted the term "depression" (65.3% of responses), whereas in Japan respondents used more generic terms such as "psychological, mental, or emotional problem" and stress, so that only 22.6% of them used the term "depression".

Regarding perception of this disorder as a mental illness, our results indicate that a small portion of respondents connected depression symptoms to this concept. Such result is lower than the one observed in similar studies from other countries. In a study conducted in the United States,[10] 69.1% of respondents identified depression symptoms as indicating mental illness, whereas 62.2% of the population in Germany[1] and 39.8% in Switzerland[9] identified the symptoms described in the vignette likewise. In an urban center in Turkey,[15] 79% of respondents believed the vignette about depression described a person with mental illness.

One may wonder about some of the factors that can help understand why the term "mental illness", when referring to depression, was little used among this particular population. First of all, it may be suggested that there is little information on this theme in our society. Besides, this result can be attributed to certain sociocultural characteristics that would involve preferences for more comprehensive and less stigmatizing terms to define mental disorders.

In this sense, a study by Giosan et al[3] compared, by means of vignettes, the concept of mental illness among three different cultures (American, Brazilian, and Romanian). It also revealed that the concept of mental illness among Brazilians is little comprehensive, when comparing the Brazilian sample to the others, especially in relation to the North-American one.

The assessment of determinants for the identification as mental illness can help understand this result. Low level of education stands out among the determinants. This is an interesting finding as it indicates that those who presumably have less information are the ones who most frequently refer to the concept of mental illness. Some hypotheses could be raised to explain this finding, among them the fact that people with a higher level of education can express a more psychological view of mental and emotional problems that somewhat differs from the biomedical model.

Another factor assessed, personal experience, was not associated with the identification of depression as mental illness in the present study. Likewise, Goldney et al[4] (2003), in a study conducted in Australia, did not find differences between people without depression and people with major depression, as well as its other types, in the identification of the problem described in the vignette. However, in a study made in Switzerland, Lauber et al[9] (2003) observed that previous contact with mentally ill people had a positive effect on the identification of depression symptoms.

Causes of diverse natures – psychosocial, spiritual, moral and biological – were attributed to depression by the population, which points to a multifactorial etiological understanding. However, causes associated with psychosocial stress were considered the most relevant.

When comparing the population view to the results from current scientific evidence, converging points can be found. Scientific evidence shows the importance of a multifactorial model to understand depression, indicating certain psychosocial factors as etiologically relevant. On the other hand, some biological factors, such as the genetic factors, also considered to be relevant by scientific evidence, are little considered as etiology for depression by the population.

The results of the present study are very similar to those from other international studies, which, in reference to distinct cultures and development levels, also show a tendency to be associated with depression, especially with causes related to psychosocial stress. In the United States, Link et al[10] (1999) reported that the main cause attributed to depression were "stressful events in a person's life". Nakane et al[14] (2005) observed that the most frequent cause identified in Australia and Japan were "daily problems". Similarly, in Germany[1,] Mongolia and Russia[2], the most important cause for the public was a "life event". In an urban community in Turkey[15], 87% believed that social problems are the cause of depression. Finally, in a study conducted by Mulatu[12] (1999), in a city in the northeast of Ethiopia, also concluded that the main etiological factor attributed to depression is related to stress.

Among the variables considered to explain the attribution of causes, the influence of the female sex, low level of education, personal experience and identification as mental illness stands out.

Low level of education was associated with the preference for causes of a spiritual/moral and biological nature. Other studies on the influence of variables on the attribution of depression causes also reveal that low level of education is connected to preference for causes of a religious or moral nature.[6,11,12] In relation to the causes of a biological nature, the same tendency was observed by Matschinger & Angermeyer[11] (1996) in Germany, whereas the opposite tendency was verified by Mulatu[12] (1999), in Ethiopia.

As predicted, identification as mental illness was associated with preference for causes of a biological nature. Personal experience showed to be linked to the choice of psychosocial causes.

In conclusion, the results showed that the majority of the population of the city of São Paulo does not identify depression symptoms with the terms "depression" or "mental illness", as well as with the preference for causes of a psychosocial nature, which somewhat differs from the biomedical model of depression. These results were obtained especially among people with a higher level of education.

How can the distance from the biomedical model promote or hinder one from seeking help, adherence to professional treatments and the acceptance of those with depression by society?

It could be imagined that understanding depression as a life situation would lead to fewer people seeking professional help or their not seeking it so early, but there are no direct proofs for this hypothetical relation in the literature. Regarding the issue of people who suffer from this disorder being accepted by society, there is evidence about the association between public preference for a psychosocial model and more favorable reactions, such as the desire for less social distance and less negative reactions.[1,2]

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